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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,234	09/19/2003	Alberto Garavani	206,272	8486

7590 09/13/2007

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EXAMINER	
GHALI, ISIS A D	
ART UNIT	**PAPER NUMBER**
1615	

MAIL DATE	DELIVERY MODE
09/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,234	GARAVANI ET AL.	
	Examiner	Art Unit	
	Isis A. Ghali	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The receipt is acknowledged of applicants' amendment, declaration and terminal disclaimer, all filed 06/28/2007.

Claims 1-25 are pending and included in the prosecution.

The following rejection(s)/objection(s) have been overcome by virtue of applicants' amendment and remarks:

(A) Claim benefit of a prior-filed application under 35 U.S.C. 120 in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification.

(B) The provisional rejection of claims 1-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-5, 7-23 of copending Application No. 10/104,410.

Terminal Disclaimer

1. The terminal disclaimer filed on 06/28/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of copending Application No. 10/104,410 has been reviewed and is accepted. The terminal disclaimer has been recorded.

The following rejections have been discussed in the previous office action, and are maintained for reasons of record:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-10, 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 302 536 ('536) in view of US 5,631,011 ('011) and the article by Fialkova et al.

The present claim 1 requires a patch comprising support layer, protective layer, and adhesive layer comprising adhesive polymer, hydrocolloid, hyaluronic acid or its salts, and chondroitin sulfate or its salts.

EP '536 teaches a wound dressing for treating wounds comprises polyurethane layer 11 that represents the support layer (page 5, lines 35-36); silicone coated release paper that represents the removable protective layer (page 3, lines 48-50; page 5, lines 33-35); and an adhesive layer comprising mixture of hydrocolloids represented by layer 14 (page 3, lines 10-11). The reference disclosed that the hydrocolloid mixture forms from about 10 to 65% by weight or more of the adhesive layer, and comprises mixture of sodium carboxymethyl cellulose and pectin, as claimed in claims 8 and 9, (page 3, lines 10-11, example 1; page 8, lines 46-49). The adhesive layer comprises pressure sensitive adhesive polymers including polyisobutylene and styrene isoprene copolymer, wherein the polyisobutylene has MW between 36,000 to 58,000, as claimed in claims 13-15 (page 2, lines 39-42). The total weight of the pressure sensitive adhesive polymer mixture forms between 34.5 to 40% by weight of the adhesive layer (examples 12 and 17). The adhesive layer contains small amounts of active agents (page 3, lines 37-42). The adhesive layer further comprising mineral oil in an amount ranges from 5 to 9.5% by weight, as claimed in claims 16-18 (examples 1, 16-23). The dressing is prepared by a process comprising the steps of mixing the powdered ingredients, extruding the resulting dough while it is hot on silicon coated release paper, and then laminating the adhesive layer to impermeable polyurethane coating (page 4, lines 7-24; example 1; page 8, lines 50-58).

EP '536 does not teach the adhesive layer comprises hyaluronic acid or its salts and chondroitin sulfate or its salts

US '011 teaches tissue treatment composition that can be provided impregnated in a film or sheet or impregnated in cellulose flat matrix, the composition comprising polysaccharide/polyglycan (abstract; col.3, lines 50-57; col.5, lines 50-64; col.12, claim 6). The preferred polysaccharide/polyglycan is hyaluronic acid and its high molecular weight sodium hyaluronate salt because it exists in extracellular spaces of all tissues, hence its application results in temporary increase of the local concentration of endogenous materials without any physiological detrimental effects, and further it plays role in wound healing by influencing the migration of granulation tissue cells (col.3, lines 64-66; col.4, lines 3-6, 18-19; col.12, claims 1-3).

Fialkova et al. teach that the local administration of chondroitin sulfate to a cutaneous wound shows stimulation of regeneration of the damaged cutaneous tissues (abstract).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide the patch disclosed by EP '536 that comprises adhesive layer comprises adhesive polymer, hydrocolloid, and small amounts of therapeutic agents, and add the high molecular weight hyaluronic acid to the wound dressing as disclosed by US '011 motivated by the teaching of US '011 that the high molecular weight hyaluronic acid is preferred in wound healing compositions because it exists in extracellular spaces of all tissues, hence its application results in temporary increase of the local concentration of endogenous materials without any physiological

detrimental effects, and further it plays role in wound healing by influencing the migration of granulation tissue cells; and further one having ordinary skill in the art would add chondroitin sulfate to the wound dressing as taught by Fialkova motivated by the teaching of Fialkova that chondroitin sulfate shows stimulation of regeneration of the damaged cutaneous tissues, with reasonable expectation of having wound dressing comprising adhesive layer comprising hydrocolloid and adhesive polymer and further comprising hyaluronic acid and chondroitin sulfate wherein the dressing stimulates the healing and regeneration of the wound and promotes granulation tissue formation without any detrimental effects.

The combined teachings of the references do not teach the concentrations of hyaluronic acid and chondroitin sulfate in the adhesive layer, or sodium salt of chondroitin sulfate. However, the claimed concentrations of hyaluronic acid and chondroitin sulfate, as well as the specific sodium salts of chondroitin sulfate do not impart patentability to the claimed composition, absent evidence to the contrary.

The combined teachings of the references do not teach the exact molecular weight of hyaluronic acid. However, US '011 teaches that preferred hyaluronic acid is high molecular weight sodium hyaluronate.

The reference does not teach the temperature at which the extrusion is performed. The temperature of extrusion does not impart patentability to the claimed process. In any events, EP '536 disclosed the extrusion of the dough while hot (page 5, line 27), and applicant shows no unexpected results obtained from the specific claimed temperature.

5. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP '536 in view of US '011 and Fialkova et al. as applied to claim1, 3-5, 7-9, and 13-23 above, and further in view of US 6,190,689 ('689).

The teachings of EP '536 combined with US '011 and Fialkova et al. are discussed above. The references in combination do not teach the inclusion of saccharose in the adhesive composition.

US '689 teaches a transdermal or topical device comprising pressure sensitive adhesive composition comprises a substances that are water soluble, meltable, adhesive at room temperature, and are known to cause no skin irritation or allergic reaction even with prolonged application on human skin (abstract; col.3, lines 18-24, 58-64). These substances include saccharose (col.3, lines 24-32).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a patch comprising adhesive layer comprising adhesive polymer, hydrocolloid, hyaluronic acid, and chondroitin sulfate, as taught by the combined teaching of EP '536 with US '011 and Fialkova et al., and add saccharose to the composition of the adhesive layer as disclosed by US '689, motivated by the teaching of US '689 that saccharose is water soluble, meltable, adhesive at room temperature and known to cause no skin irritation or allergic reaction even with prolonged application on human skin, with reasonable expectation of having a patch comprising adhesive polymer layer comprising hydrocolloid, hyaluronic acid, chondroitin

sulfate and saccharose that promotes wound healing and has excellent adhesion and no skin irritation on prolonged use.

Response to Arguments

6. Applicant's arguments filed 06/28/2007 have been fully considered but they are not persuasive. Applicants traverse the 103 rejections by arguing that:

- While EP '536, discloses a hydrocolloidal patch, it fails to disclose the inclusion of a wound healing promoter.

In response to this argument, applicants' attention is directed to the scope of the present claims, which is a product, and all the elements of the product are disclosed by the references in combination. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). EP '536 teaches the adhesive polymer and hydrocolloid in wound dressings and when combined with US '011 and Fialkova, the combination makes the present invention obvious. The invention as a whole is taught by the combined teachings of the references.

- Applicants argue that US '011, it teaches a glue which is supplemented with a biodegradable and biocompatible polymer of hyaluronic acid to provide adequate viscosity for the glue, and not as a pharmaceutically active substance, especially in view of the fact that it is said to display only limited bioavailability.

In response to this argument, the present claims are directed to product and all the elements of the product are disclosed by the combined teachings of the references. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. US '011 teaches that high molecular weight hyaluronic acid is preferred in wound healing compositions because it exists in extracellular spaces of all tissues, hence its application results in temporary increase of the local concentration of endogenous materials without any physiological detrimental effects, and further it plays role in wound healing by influencing the migration of granulation tissue cells. Therefore, US '011 teaches the role of hyaluronic acid in wound healing. Although US '011 teaches that the bioavailability of hyaluronic acid per se is limited because of its short half life time, the reference teaches the role played by hyaluronic acid in wound healing. In other words, the reference recognized that hyaluronic acid plays role in wound healing even that hyaluronic acid has limited bioavailability per se. Additionally, the claims' language "comprising" does not exclude the presence of other ingredient, active or inactive, even in major amounts.
It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose. See In Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

- Applicants argue that the article by Fialkova et al. teaches the use of an injectable solution of chondroitin sulfate to stimulate the regeneration of skin after injury in 10%

> aqueous solution of chondroitin sulfate. Applicants, unexpectedly found, as stated by Dr. Rappaport in her Declaration, that the use of smaller quantities of chondroitin sulfate produced results which were synergistic in nature and completely unexpected in view of the larger quantities which were reported in the Fialkova et al. article. One of ordinary skill in the art would never expect from the teaching of Fialkova et al., that using chondroitin sulfate having a concentration of only 0.01% to 5 %, by weight, in a patch would produce such significant improvements in the rate and quality of the healing.

In response to the argument against Fialkova, and with careful review to Fialkova's reference, it is noted that the reference does not teach any specific amounts of chondroitin sulfate. It is also expected that the skilled artisan when formulating a formulation comprising ingredients known to have synergistic effect, the amount of each ingredient will be reduced. It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose. See In Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). Fialkova teaches that chondroitin sulfate shows stimulation of regeneration of the damaged cutaneous tissues, and this teaching would have been motivated one having ordinary skill in the art to include chondroitin sulfate in wound healing compositions, with reasonable expectation of having improved regeneration of damaged cutaneous tissue. In considering the disclosure of the reference, it is proper to take into account not only the specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). The rational to modify or to combine the prior art does not have to be expressly stated in the prior art; the rational may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art. The reason or motivation to modify the

reference may often suggest what the inventor has done, but for a different purpose or to solve different problem. It is not necessary that the prior art suggest the combination or modification to achieve the same advantage or result discovered by applicant. *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972).

- Regarding the rejection of claims 11-15 under 35 USC 103(a) over EP '536 in view of US '011 and Fialkova and further in view of US 6,190,689, applicants argue that since claims 11-15 depend directly or indirectly from independent claim 1, then claims 11-15 are also distinguished over the combination of art.

In response to this argument, the examiner hereby repeats the argument regarding EP '536, US '011 and Fialkova. Regarding US '689, applicant has failed to traverse the rejection and the response is considered to be acquiescence to the position taken by the examiner. The rejection is therefore repeated for reasons of record. See MPEP 37 CFR 1.111 (b).

Response to Amendment

7. The declaration under 37 CFR 1.132 filed 06/28/2007 is insufficient to overcome the rejection of claims 1-25 based upon U.S.C. 103(a) obviousness as set forth in the last Office action because: it include(s) statements which amount to an affirmation that the claimed subject matter functions as it was intended to function. This is not relevant to the issue of nonobviousness of the claimed subject matter and provides no objective evidence thereof. See MPEP § 716. The declaration presents no comparison between the present amount of chondroitin sulfate and the prior art amount. Proper comparison

can only be made by testing amount outside, but below the lower end of the claimed amount and outside, but above the upper end of the claimed amount. Only then a meaningful comparison of the effect of the amount of chondroitin sulfate can be made.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isis A. Ghali whose telephone number is (571) 272-0595. The examiner can normally be reached on Monday-Thursday, 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isis A Ghali
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